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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional): NPI-17 (16016.1)

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]

on July 12, 2006

Signature Katrina C Morris

Typed or printed name Katrina C. Morris

Application Number	Filed
10/003,698	October 31, 2001

First Named Inventor: Frank J. Kronzer

Art Unit	Examiner
1774	Tamra Dicus

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).
Note: No more than five (5) pages may be provided.

I am the

- ☐ applicant/inventor.
- ☐ assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)
- ☐ attorney or agent of record. Registration number ______.
- ☑ attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 56,405

Signature

Alan R. Marshall
Typed or printed name

864-271-1592
Telephone number

July 12, 2006
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☑ *Total of 1 forms are submitted.

PATENT
ATTORNEY DOCKET NO: NPI-17(16016.1)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Kronzer, et al.	)	Examiner:	Tamra Dicus
Appl. No:	10/003,698	)	Group Art Unit:	1774
Filed:	October 31, 2001	)	Dep. Acct. No:	04-1403
Title:	Heat Transfer Paper With Peelable Film and Discontinuous Coatings	)	Conf. No:	2529
		)	Customer ID No:	22827

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Dear Sir:

In conjunction with the filing of a Notice of Appeal, Applicants respectfully request review of the basis of rejections of the pending claims.[1]

Independent claims 1, 5, 16, 22, and 31 require a heat transfer material that comprises a non-transferable portion (includes substrate and release coating layers) and a transferable portion. The transferable portion includes a peelable film layer that is melt flowable at a transfer temperature. Overlying the peelable film layer is a discontinuous crosslinked polymer layer, which does not appreciably flow at the transfer temperature. (See e.g., p. 11, lines 30-34). During use, the non-transferable portion may be removed from the transferable portion to expose the peelable film layer, which is then placed adjacent to the workpiece (e.g., fabric). Heat may subsequently be applied to melt the peelable film layer into the workpiece (i.e., a fabric). The crosslinked polymer layer, however, does not melt and holds the crosslinked layer on the surface of the workpiece (e.g., fabric). (See e.g., pg. 7, lines 24-28). Also, the discontinuous crosslinked coating provides a means of preserving the fabric's porosity and

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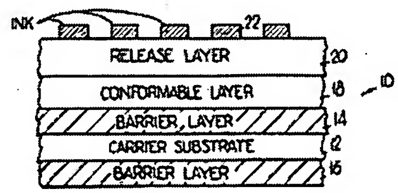
[1] Without commenting on its propriety, Applicants plan to file a terminal disclaimer to obviate the judicially created doctrine of non-statutory double patenting.

stretchability without introducing unattractive, random cracks in the film. The fabric is more breathable as a result of the discontinuities in the heat transfer material. (See e.g., pg. 6, lines 25-29).

A. No motivation exists to modify the release or conformable layer(s) of Kronzer to include a crosslinked polymer.

As shown in Fig. 1 (represented below), Kronzer describes a melt transfer web 10 containing a non-transferable portion (barrier layers 14, 16 and substrate 12) and a transferable portion, which includes a release layer 20 overlying a conformable layer 18.



According to Kronzer, transfer is accomplished by positioning the ink 22 adjacent to the workpiece. As heat and pressure are applied, the release layer 20 and conformable layer 18 soften and flow into the workpiece to secure the ink. The non-transferable portion is then removed.

In rejecting claims 1, 5, 16, 22, and 31 under *§103*, the Office Action indicated that it would have been obvious to modify the release layer 20 with a crosslinked polymer, such as described in Ho, et al. However, the inclusion of such a crosslinked polymer in the release layer would adversely affect the melt flowability of the layer 20 at the transfer temperature and would thus not function as intended by Kronzer. In fact, Kronzer actually teaches away from the use of a crosslinked polymer in the release layer 20. Specifically, Kronzer states that the inclusion of "less pliable materials such as ***cross-linked polymers*** [in the release layer] ... ***would negate the function*** of the conformable layer underneath." (Emphasis added) (Col. 7, lines 33-37). As such, Kronzer expressly teaches away from the use of crosslinked polymers in their outer release layer.

Kronzer does disclose the use of a crosslinked polymer in the barrier layers. (See e.g., Col. 4, line 65 – Col. 5, line 7). However, these layers are not transferable and are instead used to either protect the carrier substrate (bottom barrier layer) or aid

in the release of the conformable and release layers (top barrier layer). (Col. 4, lines 46-54). Applicants respectfully submit, however, that one of ordinary skill in the art would not be motivated to use the crosslinked polymer of such non-transferable barrier layers in the release layer 20 of Kronzer.

B. No motivation exists to include both a crosslinked polymer layer having an opacifying material and a crosslinked printable polymer layer in the transfer material of Kronzer.

Independent claims 5 and 16 require both a crosslinked polymer layer having an opacifying material and a crosslinked printable polymer layer. Both of these layers overlie the peelable layer. To reject claims 5 and 16, the Office Action not only attempts to modify the release layer 20 of Kronzer to include a crosslinked polymer, but also attempts to add another crosslinked polymer layer to the melt transfer web 10.

As discussed above, the inclusion of a crosslinked polymer in the release layer flies in the face of the teachings of Kronzer and would "negate" the function of the conformable layer. The resulting adverse affect on the melt transfer web 10 of Kronzer would only be magnified by the inclusion of an additional crosslinked polymer layer. As such, one of ordinary skill in the art would not be motivated to include a crosslinked polymer in the release layer 20 and add an additional crosslinked layer to the melt transfer web 10.

Additionally, in Kronzer, a background image/color is provided by the use of two separate melt transfer webs 10. (See Figs. 4 and 5). No motivation or suggestion exists in Kronzer that the background color/image can be provide by a single heat transfer material, such as possible by the heat transfer material of claims 5 and 16.

C. No motivation exists to combine Kronzer and Ho, et al.

One basis that the Office Action provides for combining Ho, et al. with Kronzer is that both of the references are directed to melt transfer materials. To the contrary, however, Ho, et al. is *not* directed to a *melt* transfer material, but instead a graphic article that is adhered with a *pressure-sensitive adhesive*. For example, Ho, et al. describes a graphic article 10 that uses a pressure-sensitive adhesive layer 20 to

secure it to the workpiece. (Col. 8, lines 48-55, Col. 9, lines 36-38). Nowhere does Ho, et al. disclose that the use of heat – as opposed to pressure-sensitive adhesives – can be used to adhere the graphic article to the workpiece.[2] Although both Kronzer and Ho, et al. are generally directed to applying an image onto a workpiece, they accomplish their intended results through much different methods. Those different methods dictate the type of materials used in their respective webs. For example, Kronzer expressly requires that the transferable portion of soften and flow at the transfer temperature. Ho, et al. does not disclose or even consider such properties. As such, one of ordinary skill in the art would not be motivated to use the components of Ho, et al.'s color layer to modify the transferable layers of Kronzer.

D. The combination of Kronzer and Sogabe, et al. does not teach all of the limitations of claims 1, 22, and 31.

Even if Kronzer is modified as attempted by the Office Action with Sogabe, et al., the combination fails to teach that the discontinuous crosslinked polymer layer does not appreciably flow at the transfer temperature. Sogabe, et al. specifically discloses that the color ink layer contains a binder including a heat-meltable resin as principal component. Thus, if the ink layer of Kronzer is modified by the color layer of Sogabe, et al. to include a crosslinked resin, the resulting color layer would melt at the transfer temperature of Kronzer. This result is in contradiction to the presently claimed discontinuous crosslinked layers of claims 1, 22, and 31.

E. No motivation exists to combine the teachings of Hiyoshi, et al. with any layer of Kronzer's heat transfer material.

The Office Action also attempts to combine Kronzer and Hiyoshi, et al. to reject claims 52-56 and 59-65. In making this combination, the Office Action states that the

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[2] Ho, et al. does disclose that hot transfer lamination can be used to apply the color layer 14 to the clear protective surface layer 16. However, this mention of hot transfer lamination is directed to the manufacture of the graphic article – not to its use in transferring ink to a workpiece. Ho, et al. also discloses that an ionic crosslinking can help laminate the color layer to a substrate by acting as a hot melt adhesive. (Col. 5, lines 5-10). The substrate referred to here is either the film layer 16 (Col. 3, line 13) or the adhesive layer 20 (Col. 6, lines 3-6) during the manufacture of the graphic article.

thermofusible ink of Hiyoshi, et al. (which can contain a vinyl resin and an epoxy resin) can be substituted for the ink 22 used in Kronzer. However, even if combined, the combination fails to teach or suggest the claimed crosslinked polymer layer. In fact, unlike the claimed crosslinked polymer layer, the thermofusible ink layer 13 of Hiyoshi, et al. is actually designed to flow at the transfer temperature. Hiyoshi, et al., for instance, teaches that most thermofusible materials have melting points in the range of 40°C to 100°C. Thus, at transfer temperature of the heat transfer material, the thermofusible materials of Hiyoshi, et al.'s color layer will flow. This result is in direct contrast to independent claims 1, 22, and 31. As such, the combination of Kronzer and Hiyoshi, et al. does not disclose all of the limitations of independent claims 1, 22, and 31.

Additionally, even if the thermoplastic ink of Hiyoshi, et al. does not to flow at the transfer temperature, its use as the ink 22 in the melt transfer web of Kronzer still fails to teach all of the claimed layers of the heat transfer materials of claim 22. Claim 22 requires that the crosslinked polymer layer be printable. The only printable layer disclosed by Kronzer is the release layer 20. However, again as stated above, no motivation exists to include a crosslinked polymer in the release layer 20 of Kronzer. Thus, this combination fails to teach all of the limitations of claim 22.

Respectfully requested,

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